

**MODEL  
S510TC**  
CARBINE & RIFLE  
STD POWER  
5 & 10 SHOT



# USERS HANDBOOK

THIS HANDBOOK REFERS TO S510TC STD POWER SIDE LEVER MODELS

PLEASE READ THIS MANUAL BEFORE USING YOUR NEW RIFLE, IT CONTAINS IMPORTANT SAFETY INFORMATION AND INSTRUCTION ON ADJUSTMENT AND MAINTENANCE.



Illustrated with optional telescopic sight and mounts.

## \*\*\*\*\* SAFETY CODE \*\*\*\*\*

- 1 - TREAT THIS AIR RIFLE AS IF LOADED.
- 2 - NEVER POINT IT AT ANYONE, EVEN IF UNLOADED.
- 3 - NEVER LEAVE THIS RIFLE UNATTENDED WHEN COCKED OR LOADED.
- 4 - ALWAYS BE SURE OF WHAT LIES BEYOND YOUR TARGET.
- 5 - ALWAYS CONDUCT YOURSELF IN A SPORTSMAN-LIKE MANNER.

ALWAYS BE AWARE THAT YOUR ACTIONS WILL BE UNDER THE SCRUTINY OF OTHER MEMBERS OF THE PUBLIC WHO MAY NOT SHARE YOUR ENTHUSIASM FOR AIR WEAPONS. BAD PRACTICES PROMOTE BAD PUBLICITY. DO NOT JEOPARDISE

**WARNING ! - UNAUTHORIZED DISASSEMBLY OF THIS RIFLE WILL INVALIDATE THE MANUFACTURERS WARRANTY**

## Gun security

It is important to make sure that your gun is always kept in a safe and secure fashion when not in use.

For rifles purchased in the UK and that are NOT FAC rated (high power) a free gun lock and mounting eyes are supplied. Please follow the simple fixing instructions and keep our sport safe.

**Note: If there is no gun lock in the box please contact the dealer you purchased the rifle from.**



## IMPORTANT INFORMATION, PLEASE READ

Before leaving the factory this rifle was Q.A. inspected and test fired using Air Arms PELLETS to check operation and final adjustment.

It was dispatched in a sealed purpose designed box. Air Arms may not be responsible for any damage to the contents or missing items if the box is not original, if it is damaged or the seals are not intact.

Air Arms cannot be held responsible for damage or missing items due to transit damage, mishandling or being tampered with after leaving the factory.

If this rifle is not received in the original box with the seals intact, please examine carefully for any damage, missing tools or documentation.

In the first instance any problems or complaints regarding this product should be referred to the supplier.

The air cylinder is a highly pressurised unit that must not be modified in any way. Serious personal injury may result if this, and the advice below is not followed.

Do not pressurize the cylinder if there are any surface abrasions or dents. Contact Air Arms for advice.

Do not store the rifle in places with, or near sources of high temperature such as fires or boilers.

Do not attempt to dismantle when pressurised.

Do not pressurize beyond the stated filling pressure (see filling instruction section). Damage caused by such action is not covered by the manufacturers warranty.

Only use clean, filtered and dry compressed air. Never use any other gas, particularly industrial or welding gases such as oxygen, carbon dioxide, acetylene, hydrogen, argon, etc.

If compressed air is being used other than from a diving shop, the inside of the cylinder should be inspected for corrosion at least annually. If in doubt contact Air Arms for advice.

In any event the cylinder should be inspected every two to three years depending upon usage. Air Arms can provide this service at a reasonable cost.

To maintain this rifle in good working order it should be serviced annually by a competent gunsmith, your supplier may be able to provide this service or contact air arms.

A reasonable amount of advice will be provided to enable the end user to service their own rifle, however this is at the discretion of Air Arms and may not be given in all cases.

The velocity of this rifle has been set using Air Arms field pellets. If any other make or type of pellet is to be used the rifle must be re-tested with the pellet that is to be used, to ensure the muzzle energy is within the limits determined by current legislation.

Due to the nature of hand pumps and their relative inefficiency in removing moisture from the compressed air, the chances of corrosion damage to the cylinder and other internal components are increased.

Therefore the rifle should be regularly serviced and/or checked for any signs of damage by a competent gunsmith.

Air Arms recommend using a dry pack filter kit on any hand pumps used to fill our air rifles.

This model is a high power version that requires the user to hold a firearms certificate.

If accessories not manufactured by Air Arms are used on this rifle, Air Arms can not be held responsible for any loss of performance.

Contact your supplier or Air Arms for any advice on this matter.



## General Maintenance And Lubrication

### Fixings

Regularly check the tightness of all fixings. However do not be tempted to over tighten as some parts are made from aluminium and stripped threads may result. Stripped threads are not covered by the manufacturers warranty.

### Barrel

For ultimate accuracy, clean and re-lube the barrel frequently. It is difficult to advise how often is best for every circumstance, but every 250 shots is not too often if the desire is to keep the barrel in the best possible condition.

The correct materials are very important. Air arms only use products made by napier. Listed below are the napier products and a more generally available alternative. If possible use napier for the best results.

CLEANER :	‘NAPIER GUN CLEANER’, ALTERNATIVELY WHITE SPIRIT.
OIL :	‘NAPIER GUN OIL’, ALTERNATIVELY ‘3 IN 1’ OIL.
PULL-THROUGH PAD :	‘NAPIER RIFLE CLEAN’, ALTERNATIVELY SOFT COTTON CLOTH.
PULL-THROUGH LINE :	‘NAPIER PULL THROUGH KIT’, ALTERNATIVELY 20lb FISHING LINE.

As a rule cleaners and oils intended for shotguns and small/full bore weapons are not suitable.

1. Cut a piece of line three times the length of your barrel, fold in half and tie ends together. Remove silencer if fitted. Open loading bolt.
2. Feed un-knotted end down barrel from the muzzle end until folded end protrudes about 50mm.
3. Cut a 100mm length of ‘rifle clean’ or 100 x 50mm piece of cloth and pass it between the protruding loop. Spray the pad with ‘gun cleaner’ or white spirit, turn the rifle upside down and pull the line back through the barrel slowly.
4. Repeat steps 2&3 until the pad is clean.
5. Repeat steps 2&3 once more without any cleaner on the pad to dry the barrel.
6. Repeat steps 2&3 once more with the pad sprayed with ‘gun oil’ or 3 in 1 oil.

**Important** The reason for turning the rifle upside down is to prevent excess cleaner/oil from passing down the transfer port into the firing valve chamber.

### Lubrication

Lubrication of the internal mechanism is not covered in this handbook. This is best performed by a competent gunsmith or the factory and in any case should not be required until the annual service. Apply a small dab of grease or oil, on the two pivot points shown in the diagram, and work -in by moving the bolt forwards and backwards. Wipe off excessive grease. Preferred grease is ‘napier g95 gun grease’. On return from every shooting session, wipe all over the exterior with an oily rag to preserve the surface finish during storage.

A small drop of oil should be applied to the magazine O ring to keep it moist, and increase its life span.





## Mounting/Demounting the Magazine & Pellets

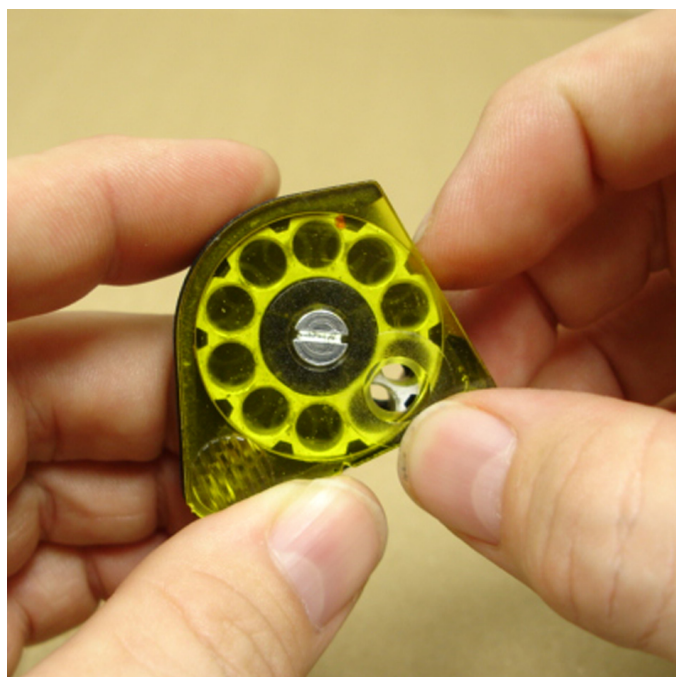
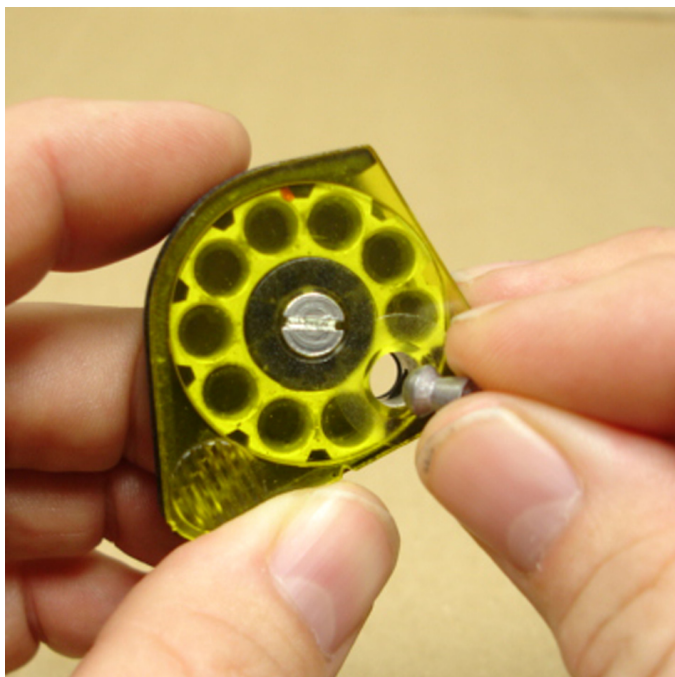
### Demounting

Fully cock the rifle, grip the magazine and slide out of the bolt housing without lifting. **Do not** attempt to lift vertically as damage to the indexing spring will result.

To refit the magazine, fully cock the rifle, grip the magazine and slide in the bolt housing applying downward pressure with the fore finger to keep the base of the magazine against the bottom of the slot in the bolt housing. Take care not to damage the indexing spring.



### Loading pellets



Hold the magazine and drop a pellet into the chamber. Manually index to the next empty chamber and repeat until the magazine is full. Finally line up the red dot on the pellet carrier with the 'V' notch on the clear magazine cover.

## Operating Instructions

### Cocking

Hold securely in one hand and with the other pull the cocking lever out and to the rear. At the end of the stroke the magazine will index and present a new chamber, also the trigger mechanism will engage. This can be determined by the trigger blade 'kicking' forward at the end of the cocking stroke.

The effect required to cock the gun is quite low so minimal force should be used.

**Note !** It is very important that the cocking lever is pulled back to the correct position. In one positive motion. The magazine indexes to the next pellet position as the bolt is retracted and it is possible for a partial index if the lever is not pulled back fully.

If you find the mechanism has not cocked completely but the magazine has indexed, Re-cock but before closing the bolt, remove the magazine and manually index it back to the empty chamber. Replace the magazine and fire as normal. If this procedure is not followed it is likely that you will load a second pellet into the barrel. Push the lever back to the forward position. The rifle is now cocked and loaded, treat with caution.





## Filling instructions

NOTE ! ONLY USE CLEAN, DRY AND FILTERED COMPRESSED AIR, PREFERABLY FROM A DIVING SHOP.

### OVER PRESSURIZATION MAY DAMAGE THE CYLINDER BEYOND REPAIR.

First the female part of the filling kit (this was supplied with the rifle) must be fitted to your filling equipment. The female part (S475) has a 1/8th BSP male thread that screws directly into the hose of your pump or bottle. Next remove the dust cover from the end of your rifle.



*This is achieved by unscrewing the cover in an anti-clockwise direction. There is only one filling connector on the rifle and this fills both cylinders.*

Once the connector is exposed the female part of the filling kit can be placed on the male and press all the way on making sure that the 'O' rings on the male part are covered.

It is a wise precaution to hold the female part of the connector, during the filling procedure, as shown in the pictures below. This will ensure the female adaptor is located completely over the male part and prevent any accidental dislodging of the connector before you start to refill the cylinder.



## Using hand pumps

The procedure for using hand pumps is the same as for bottle. It is more important to turn the female on the gun to lock it in place.

When using the pump it must be remembered that the first few pump are filling the hose and NOT the gun. When the pressure in the hose equalizes to that in the gun, the gun will start to fill.

It can take some effort to fill the gun using a pump and we recommend using the pump to top up instead of filling from empty.



## Trigger adjustments

The S510TC models all have the same trigger mechanism. It is a two stage unit with adjustment to both stages plus a weight of pull adjustment. It is easy to upset the balance between the two stages and make the trigger inoperable if incorrectly adjusted.

If you have no experience of adjusting two stage triggers seek guidance or leave the trigger as set by the factory.

**Note!** Incorrectly adjusted trigger mechanisms are not covered by the manufacturers warranty. It is not possible to test this rifle with an incorrectly adjusted trigger, therefore all triggers leave the factory with correct adjustment.

**WARNING!** Please note that it is possible to stop the safety button working with incorrect trigger adjustment.

**AN INCORRECTLY ADJUSTED TRIGGER CAN MAKE THE RIFLE UNSAFE TO HANDLE.**

## DESCRIPTION OF OPERATION

The S510TC rifles have a true two stage trigger mechanism. This means that as the trigger is pulled the bottom sear gradually disengages with the top sear until the two disengage completely and the rifle goes off. If the pressure on the trigger is released at any point before full disengagement, the bottom sear will automatically return back to full engagement. This type of trigger allows very fine but safe operation because it is the release of the 2nd stage that actually makes the rifle fire. This arrangement is vastly superior to pseudo two stage triggers where the first stage is just a pivoting trigger blade that does not move sears. The downside is that they are more difficult to adjust correctly.

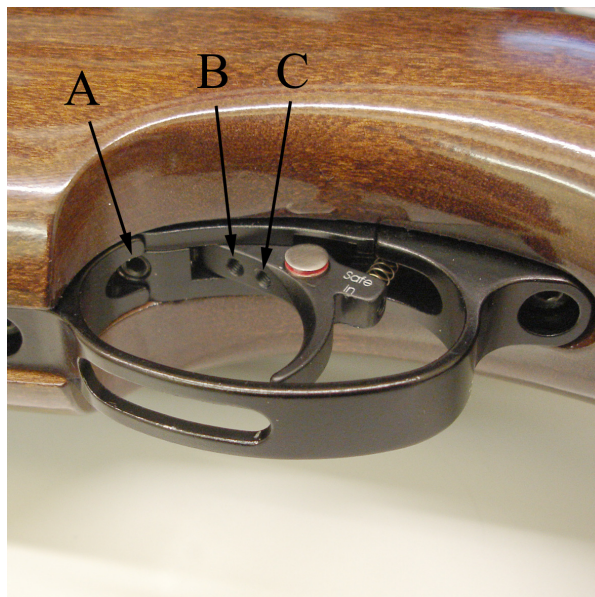
## Adjustment

There are three adjuster screws, A-B-C.

The weight of pull adjuster (A) is located in the front of the trigger guard. Clockwise rotation increases pull weight. If adjusted too far the spring will become coil-bound and prevent trigger operation.

The second stage adjuster (B) is the rear screw located in the trigger blade. This screw determines the exact point that the 2nd stage starts. If the 1st stage screw is incorrectly adjusted this screw may not have any effect.

The first stage adjuster (C) is the front screw located in the trigger blade. This screw determines the length of travel before the 2nd stage starts. Clockwise adjustment reduces the first stage travel.



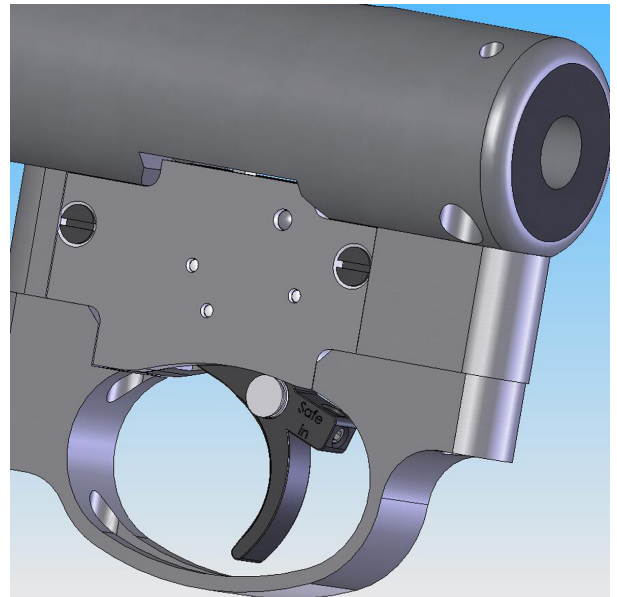
This rifle is fitted with a manual safety button located in the trigger blade.

To make the rifle safe the button must be pressed until it is flush with the side of the trigger blade.

Please note that it is possible to stop the safety button working with incorrect trigger adjustment.

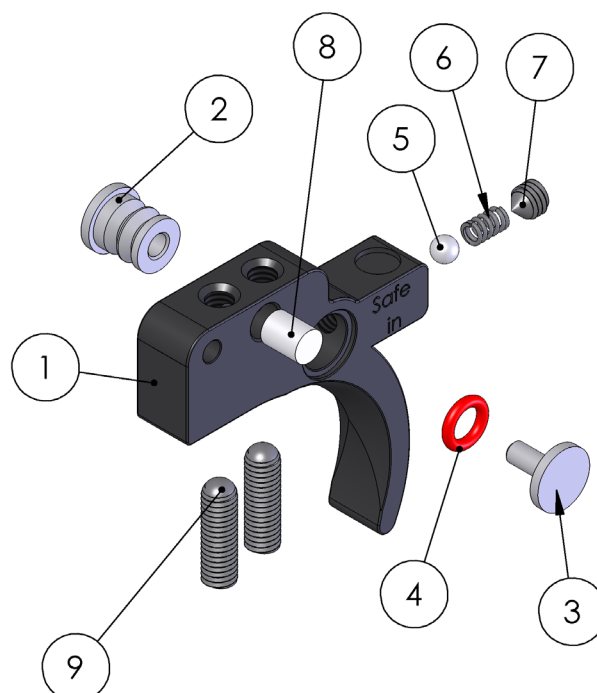


*With the button pressed in the rifle is safe.*



*With the button out the rifle is now ready to fire.*

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S420S-2	TRIGGER BLADE - BLACK ANODIZED	1
	S420GS-2	TRIGGER BLADE - GOLD PLATED	
2	S521-2A	SAFETY BUTTON - PART ONE	1
3	S521-2B	SAFETY BUTTON - PART TWO	1
4	S526	SAFETY BUTTON O RING	1
5	S523	BALL BEARING	1
6	S522	SAFETY BUTTON SPRING	1
7	S524	SCREW	1
8	TX432	ADJUSTER SCREW LOCKING PAD	1
9	S421	SCREW	2



With the female in place the gun can now be filled.

If the rifle is empty the mechanism will need to be cocked to allow the firing valve to close. If the rifle is not cocked when the bottle is opened or the pump used, the air will past the valve and exhaust through the barrel.

Check that the bleed valve on the filling equipment is closed (turn clockwise to close) then slowly open the main valve on bottle or start using the pump. The pressure in the hose will equalise and then the rifle will start to fill.

If you are filling your rifle from empty there may be some air exhausted through the barrel until the air pressure is sufficient to over come the firing valve spring (S306) this will happen at approximately 50 bar (750psi).

The filling pressure of the S510TC is 200 bar (2900psi). Filling to a higher pressures will not increase power. Number of shots may increase but there will be a higher spread between the lowest and highest power shot. Over filling will lower the power and may cause irreparable damage to the cylinder.

Once the filling pressure has been reached, close the valve on the bottle or stop pumping, open the bleed valve on the filling kit (to vent the hose, if you do not vent the hose you will not be able to remove the female from the rifle). Now the female connector can be removed from the rifle and end cap (E483BK) can be replaced over the male connector ensuring not to over-tighten.

The S510TC range of rifles are fitted with a pressure indicator mounted on the underside of the rifle just in front of the stock screw. This provides the user with a visual check on the amount of air remaining in the cylinder **this indicator should not be used during the filling process** as the needle reaction speed has been slowed to prevent damage whilst filling. After filling the needle can take several seconds to synchronize with the air in the cylinder.

The picture below shows a guns with just over 150 bar of pressure. Although every gun is slightly different the recommended refill pressure for the S510TC is between 100 and 110 bar. **Always use the gauge on the filling kit.**



NOTE: *On the front end of the cylinder is an engraved warning reading....*

READ MANUAL. MFP 200bar. DOM ###/###/#### 7075T6.  
INSPECT BI ANNUALLY. #####

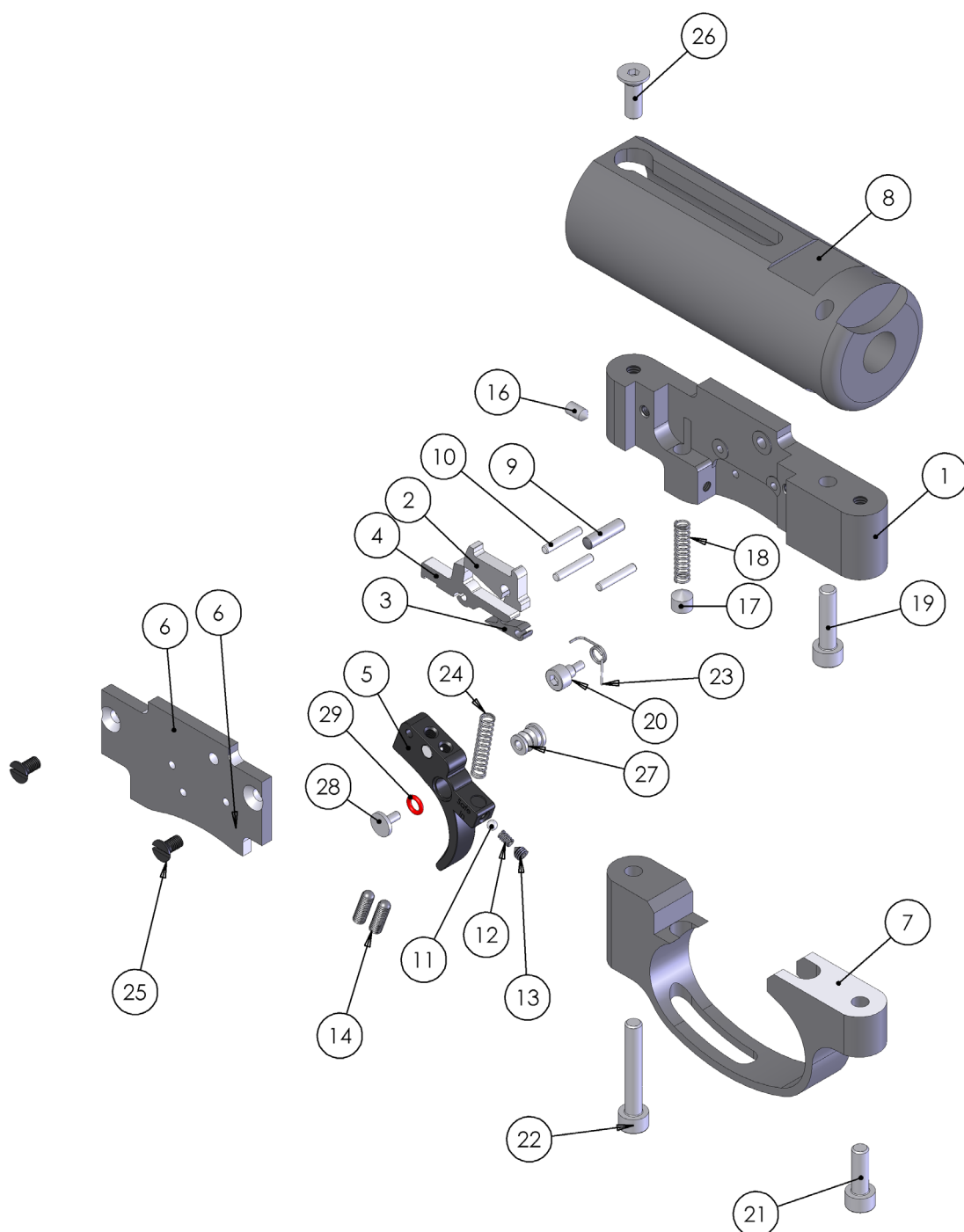
MFP	= Maximum Filling Pressure. The pressure is stated.
MSP	= Maximum Safe Pressure. The pressure is stated.
DOM	= Date of Manufacture. The date is stated.

## WARNING NOTE CONCERNING 300 BAR BOTTLES.

WITH THE ADVENT OF THE 300 BAR BOTTLE IT SHOULD BE NOTED THAT CARE HAS TO BE TAKEN WHEN FILLING YOUR RIFLE. THE FILLING PROCEDURE DESCRIBED IN THIS MANUAL MUST BE FOLLOWED TO AVOIDED DAMAGE TO THE RIFLE, PARTICULARLY THE SLOW OPENING OF THE VALVE ON THE BOTTLE. OPENING THE VALVE QUICKLY WILL ALLOW UP TO 300 BAR OF PRESSURE INTO THE CYLINDER AT ONCE, THIS COULD CAUSE SERIOUS PERSONAL INJURY OR IRREPARABLE DAMAGE TO THE CYLINDER.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S313	CHASSIS	1	15	TX432	ADJUSTER SCREW LOCKING PAD	1
2	S320-2	TOP SEAR	1	16	RN191	SCREW	1
3	S321-2	BOTTOM SEAR	1	17	TX381	SCREW	1
4	S325-2	MIDDLE SEAR	1	18	S319	FILLING VALVE SPRING	1
5	S420S-2	TRIGGER BLADE - ANODIZED	1	19	TX236	SCREW	1
	S420GS-2	TRIGGER BLADE - GOLD PLATED		20	S496	SCREW	1
6	S318	COVER PLATE	1	21	TX460	SCREW	1
7	S314	TRIGGER GUARD	1	22	S316	SCREW	1
8	S310-SL	STRIKER BODY	1	23	S495	TOP SEAR SPRING	1
9	TX398	PIN	1	24	S311	TRIGGER LOAD SPRING	1
10	S326	PIN	3	25	RN106	SCREW	2
11	S523	BALL BEARING	1	26	S322	SCREW	1
12	S522	SAFETY BUTTON SPRING	1	27	S521-2A	SAFETY BUTTON - PART ONE	1
13	S524	SCREW	1	28	S521-2B	SAFETY BUTTON - PART TWO	1
14	S421	SCREW	2	29	S526	SAFETY BUTTON O RING	1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RN234	BS213 O RING	1	63	S550	SIDE PLATE	1
2	S340	STRIKER ROD	1	64	S560	CAM PLATE	1
3	S370H	FIRING VALVE	1	66	S515A	INDEXING POST ASSY	1
5	S306	FIRING VALVE SPRING	1	68	S565	SIDE PLATE SCREW	3
6	S640AT	GAUGE MOUNT ANTI-TAMPER	1	69	S505	MAGAZINE RETAINING SPRING	1
7	S427	6x1 O RING	2	70	RN113	SCREW	4
8	S536	BS008	1	71	RN193	SCREW	2
9	JT416	GAUGE MOUNT SCREW	1	72	TX234	BISSSEL PIN	1
10	RN219-9	BS 011 O RING	1	73	RN135	SCREW	1
11	S645	INDICATOR GAUGE	1	74	S555A	MAGAZINE - .177 (10 shot)	1
12	S500-SL	BOLT HSE - SIDE LEVER	1		S555B	MAGAZINE - .22 (10 shot)	
13	S540A - SL	.177 LOADING BOLT STEM - SIDE LEVER	1		S557	MAGAZINE - .22 (5 shot)	
	S540B - SL	.22 LOADING BOLT STEM - SIDE LEVER			S558	MAGAZINE - .177 (5 shot)	
14	S140	LOADING BOLT DETENT BUFFER . 22	1	81	RN102A	SCREW	5
	S142	LOADING BOLT DETENT BUFFER . 177		82	FP134	THREAD PROTECTOR	1
15	S501 - SL	BOLT HSE BUSH .22 - SL	1	83	S402A	BARREL SEAL HOLDER -.22	1
	S502 - SL	BOLT HSE BUSH .177 - SL			S402B	BARREL SEAL HOLDER -.177	
16	S130	COCKING ARM PIVOT BLOCK	1	84	S336	CYLINDER EXTENSION -TWIN	1
17	S322	SCREW	1	85	S338	22 X 2.5 O RING	5
18	E125	COCKING ARM	1	86	S337	10 X 1.5 O RING	1
19	E144	PIN	1	87	S655	6 X 12 X 1.5 WASHER	1
20	S541-1	BEARING SHIM	1	88	TX440	SCREW	1
21	S541	BEARING	1	89	RN515	11 x 2.5 O RING	2
22	S542	SIDE LEVER BUSH	1	90	S334	CYLINDER PLUG - ALUMINIUM	2
23	S264	COCKING LINK	1	91	S335AL	RIFLE CYLINDER - ALUMINIUM	2
24	E127	3x11.8 Roller	1		RN235AL	CARBINE CYLINDER - ALUMINIUM	
25	S355H-SL	M4x16 SCREW	1	92	S491AL	CYLINDER PLUG - ALUMINIUM	1
26	S520-SL	STRIKER - SIDE LEVER	1	93	S491DAL	CYLINDER PLUG BLANK - ALUMINIUM	1
27	S520-1	BUSH	2	94	S472	MALE CONNECTOR	1
28	S356H	STRIKER SCREW	1	95	S471	SINTERED FILTER	1
29	S331	MAIN SPRING	1	96	S473	FILLING VALVE	1
30	S530	MAIN SPRING GUIDE	1	97	S327	BS005 O RING 90 SHURE	1
31	S401A-BO	BARREL .22 - RIFLE	1	98	S474	MALE CONNECTOR O RING	2
	S401B-BO	BARREL .177 - RIFLE		99	S484	12x1.5 O RING 70 SHURE	1
	S401F-BO	BARREL .22 - CARBINE		100	S380D	BARREL CLAMP - TWIN	1
	S401G-BO	BARREL .22 - CARBINE		101	S484H	BARREL SUPPORT O RING	1
32	S600-3	BARREL TUBE SUPPORT	1	102	E483BK	END CAP	2
33	S600-4	BARREL SUPPORT O RING	2	103	S538	BARREL SEAL .22	1
	S600H-SL	BARREL TUBE - RIFLE			FP120	BARREL SEAL .177	
34	S600HC-SL	BARREL TUBE - CARBINE	1	104	S360D	POT	1
35	PS224	BAFFLE (GREY)	5	105	E146	COCKING ARM FRICTION PAD	1
36	S133	SHROUD INSERT	1	106	TX228	SCREW	1
53	RN191	LOCKING SCREW	1	107	S507-SL	FIRING VALVE BODY - SIDE LEVER	1

